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to: Distribution

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subject: *CUBIT Technical Memo #96-1:*
CUBIT Distribution over World Wide Web

1.0 Introduction

Several factors increasing the likelihood that the customer base for the CUBIT mesh generation toolkit will increase in the near future are:

- Increased focus on robustness issues in the CUBIT project, resulting in a much more stable code
- Use of CUBIT as vehicle for ASCI and Goodyear mesh generation efforts
- Increased emphasis Sandia-wide on model-based simulation, increasing the need for a powerful, robust mesh generation tool capable of handling typical Sandia applications

The distribution mechanism for the CUBIT code up to this time has been ad-hoc and will not work very well for large numbers of customers. This memo describes a new Web-based distribution mechanism for CUBIT code and documentation.

This memo is organized as follows. Section 2 summarizes the procedure used for downloading CUBIT documentation and executables from the Web. Section 3 gives information about the CUBIT release cycle; Section 4 describes the procedure for gaining access to the CUBIT code and documentation over the Web.

2.0 Summary

In summary, the following steps must be taken to access CUBIT documentation or executables over the web:

1. Obtain a username and password by contacting Tim Tautges (tjtautg@sandia.gov, 505-844-5388).
2. Browse the site **http://sass577.endo.sandia.gov/SEACAS/CUBIT/release**.
3. Browse subdirectories to find the desired files; for protected subdirectories, the user will be queried for a username and password.

4. Download the desired file using the procedure appropriate for the browser being used; for Netscape version 2.0, this can be done by selecting the file with a Shift-Left Mouse Button.

3.0 CUBIT Release Cycle

The CUBIT mesh generation toolkit is currently released on a 6-month cycle, with releases in April and October. The most recent version was released on April 22, 1996 and was designated CUBIT version 1.13. Before each release, the User's Guide is updated and the code is run through a suite of standard tests. For most users, the most recent release is the version of choice, since it has received the greatest amount of testing.

The CUBIT code is maintained in a CVS repository, allowing developers autonomous access and update capabilities. The code in the repository is compiled nightly by a cron process, to ensure that the day's changes result in a compilable code. In the near future, an auto test suite will also be run nightly to check that capabilities already in the code are not broken by subsequent updates. This nightly compiled version of CUBIT is referred to as the 'beta' version, and will also be made available for distribution over the Web. The beta version contains the latest features added to CUBIT, but also has received only limited, ad-hoc testing. Therefore, this version of the code should be used only when features added to CUBIT since the last release must be used.

4.0 CUBIT Distribution Procedure

Access to the Web site containing CUBIT executables is protected by user authentication (some documentation is also available without any authentication). Before accessing this Web site, a user should contact Tim Tautges (tjtautg@sandia.gov, 505-844-5388) to establish a username and password. Currently, this must be done interactively because of the method for initializing passwords for these accounts; efforts will be made to automate this process so that accounts can be established using only e-mail.

After establishing a username and password, the user should browse the site **http://sass577.endo.sandia.gov/SEACAS/CUBIT/release**. This site is the root for Web-based distribution of both documentation and executables, and access to it is allowed from anywhere.

The method used to download a file over the Web depends on the browser being used. Using Netscape version 2.0, selecting the desired file using Shift-Left Mouse Button will bring up a file dialog, where the destination of the downloaded file can be specified. The file will be downloaded in the proper format (binary or ASCI). Executables will need to be decompressed using the gunzip utility, which is publicly available over the web (e.g. **ftp://jaguar.utah.edu/gnustuff/gzip-1.2.4.tar**).

4.1 Public-Access Documentation

For public-access documentation, browse the **doc-public** subdirectory (**http://sass577.endo.sandia.gov/SEACAS/CUBIT/release/doc-public**). This subdirectory will contain the CUBIT User's Guide for each released version of the code, in gzip'd postscript format; it may also contain other public access documents, like copies of published technical papers, SAND reports, and CUBIT test problems. Note that the CUBIT User's Guide will also be made available in browsable form, but will probably be accessed from the CUBIT home page (**http://sass577.endo.sandia.gov/SEACAS/CUBIT/Overview.html**).

4.2 Restricted-Access Documentation

Oddly enough, restricted access documents are protected from unrestricted access; documentation of this type can include but is not limited to CUBIT monthly reports and technical memos. Restricted access documentation is contained in the **doc-restricted** subdirectory (**http://sass577.endo.sandia.gov/SEACAS/CUBIT/release/doc-restricted**). When the user attempts to browse this subdirectory, the browser may raise a window requesting a username and password; for example, the window raised by Netscape version 3.0 is shown in Figure 1 (the appearance of this window under other browsers may

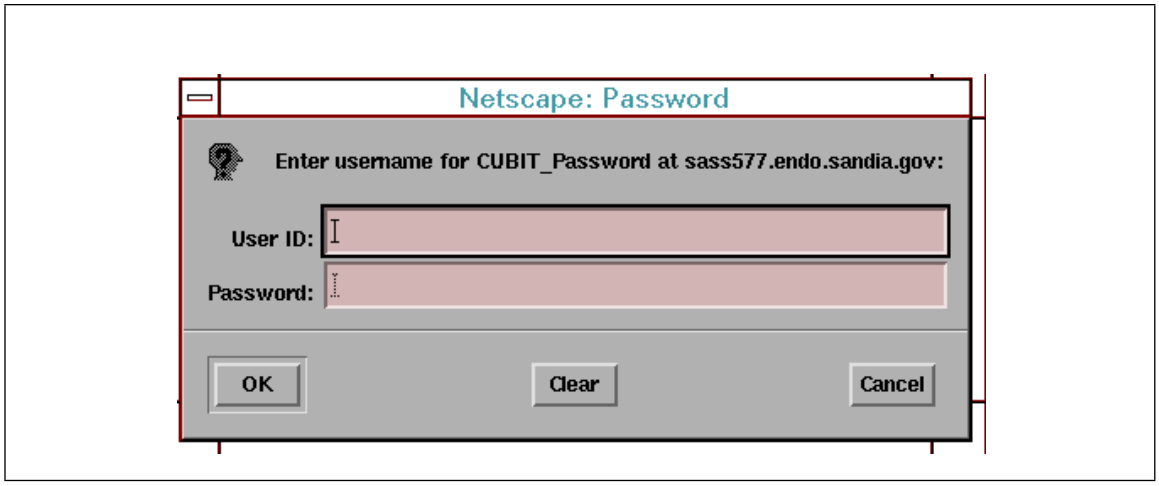

Figure 1: Password authentication window raised by Netscape version 3.0.

be different, but should still request a username and password).

4.3 CUBIT Executables

Executables for the CUBIT code are available over the web for the most recent release (version 1.13), on the Sun Solaris, HP, and SGI platforms. In addition, the most recent nightly compile is also available. Subdirectories containing these releases are gathered under the **executables** subdirectory (**http://sass577.endo.sandia.gov/SEACAS/CUBIT/release/executables**). Each subdirectory is named according to the release, with the

nightly compiled version contained in the **beta** subdirectory. Each of the subdirectories is protected separately, so there can be a different access list for each release; it is expected, though, that most users will be given access on an ongoing basis.